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ABSTRACT

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A device and method for determining mercury levels in a biological sample containing mercury. The biological sample is at least partially dissolved in an acidic solution to release at least a portion of the mercury contained therein. The partially dissolved biological sample is exposed to an anode and cathode under an electromotive force causing at least a portion of the mercury released from the biological sample to adhere to a surface of the cathode. The cathode being exposed to an alkaline metal salt to create a mercury-alkaline metal amalgam. This cathode is then electrically connected to a reference electrode whereby the extent of the amalgam is a measure of the level of mercury in the biological sample.